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## The Maintenance Rations of Animals.

By R. G. LINTON, M.R.C.V.S.,
DEPARTMENT OF HYGIENE, ROYAL (DICK) VETERINARY COLLEGE, EDINBURGH.

(Reprinted from *The Lancet*, July 19th, 1924.)

A maintenance ration may be described as that which will keep an animal that is in a resting non-producing condition and in good health in the same condition and at the same weight *for an indefinite period*. A diet which keeps an animal at a constant weight and *apparently* in good health for a short period is not necessarily a true maintenance ration. For example, certain monkeys kept in confinement in a zoo which are accustomed under natural conditions to a varied diet, including insects and grubs, may live for a considerable time in confinement on a diet of mixed fruits and nuts. When eventually these animals die, post-mortem examination not infrequently reveals a hitherto unsuspected osteomalacia, evidence that the diet has been deficient. It is therefore to be assumed that long before symptoms of illness became evident the animals had been living in a condition of "half-health," hence one would not be justified in regarding this diet as a maintenance ration, notwithstanding the fact that it does maintain life even to the extent of several years.

In connection with the domesticated animals, in many cases it is very difficult to say what really constitutes a true basal ration if it is agreed that the diet must maintain health for a long and not a short period. There are many factors which have to be taken into consideration, any one of which, if neglected, may tend to lower the health-level of the animal. Every basal ration should be constructed so as to allow for sufficient exercise, as a certain minimum of exercise is essential if health is to be maintained. The writer, when feeding oats stained with methylene-blue to horses for the purpose of determining the rate of passage of food through the intestine, found that a few minutes' walking exercise round a yard caused the fæces to be evacuated several hours earlier than when the same animals were kept standing tied up in a stall. Dogs accustomed to regular exercise, and thus regular evacuation of the rectum and bladder, when kept confined in a cage fail to get rid of their waste products as soon as they should, and thus real health is not maintained. It is well known that cattle and horses when conveyed by ship, even for a short distance, show a gain in weight out of proportion of the amount of food they could have digested. This temporary increase in weight is due to the accumulation of indigestible food and waste products in the intestinal tract. This is a very important point to keep in mind when carrying out feeding experiments with animals confined in cages, for this delay in evacuation of residual matter, if continued for an appreciable period, is bound to have a detrimental effect on the health of the animals.

### *Requirements for a Basal Ration.*

The requirements for a proper basal ration for animals may be summarised as follows: (1) The net caloric intake must be equivalent to the basal fasting katabolism, together with an allowance for the increased metabolism due to the specific dynamic action of the food consumed. (2) It must supply sufficient net energy for adequate exercise. (3) Additional metabolisable energy may be required simply for the purpose of supplying heat in the case of animals where the critical temperature is of practical importance. (4) There must be sufficient protein to equalise nitrogen outgo. (5) There must be sufficient "coarse" food in the ration to open out the concentrated food and thus allow the free access of digestive juices. (6) An adequate bulk to the ration is necessary to cause the optimum distension of the stomach and intestines necessary for proper digestion and to give that sense of repletion without which the animal will not be contented. (7) The protein and non-protein constituents must be in proper proportion the one to the other, as also must the fat to the protein, for the optimum digestion of the food to take place. (8) There must be a properly-balanced and sufficient mineral supply to ensure a normal ionic concentration. (9) The food must be suitable for the particular species of animal. (10) An adequate supply of vitamins is essential. (11) Finally, the food must be palatable.

Neglect to study the above points when formulating rations, especially when the object of feeding an animal is to conduct a feeding experiment, may be the cause of very misleading results, and it should be remembered that whilst animals possess a considerable flexibility in their capacity to utilise strange and unnatural foods, this power to acquire tolerance is not unlimited.

### *Maintenance Requirements of Horses and Cattle.*

Maintenance requirements of farm animals are sometimes expressed in terms of *net energy*, which is

equivalent to Kellner's production starch equivalent, or, on the other hand, in terms of *gross digestible energy*, which is equivalent to Armsby's *metabolisable energy*, or the so-called maintenance starch equivalent. The caloric value of 1lb. of metabolisable energy expressed as starch is 1,710 kilo-calories (C.); that of 1lb. of net energy expressed as production starch equivalent is 1,071 C.

In accordance with our conception of a true basal maintenance ration, the requirements for the maintenance of a horse have been studied by many interested in animal nutrition. A critical study of the investigations that have been made to this end has been provided by Armsby in his "Nutrition of Farm Animals."* Armsby accepts the finding of Zunts and Hagemann, which is that for an animal weighing 1,000lb. there is required a total of 11,900 C. of metabolisable energy made up as follows:—

| | |
|---|---|
| Net energy for internal work ... ... | 4,100 C. |
| Additional required for heat production | 7,800 C. |
| Total metabolisable energy ... | 11,900 C. |

This caloric requirement is not taken to mean the physiological minimum but an economic minimum.

In 1917† I estimated the maintenance requirement for horses and, basing my calculations on a study of former investigations and on the rations given in practice, suggested that a total of 13,000 C. of metabolisable energy would meet the demands of a 1,000 lb. horse—that is, a light draught horse—where the temperature of the surrounding air was not too low, and provided that the ration contained sufficient net energy for physiological purposes. It was also assumed that this 13,000 C. would allow for the minimum of exercise required to maintain health.

It would appear, however, to be very difficult, if, indeed, it is not even impossible, to fix with any high degree of accuracy the maintenance requirements of horses and to express them in terms of calories. This is so for two reasons: first, because there is such divergence between the findings of the various investigators as to what constitutes a maintenance ration; and, secondly, because we have but rudimentary knowledge of the real caloric value of the different foods for these animals, either when fed as single foods or in combination, as when a composite diet is given, as, for example, hay, straw, and grain. It is well known that the digestibility, and hence the net energy value, of foods varies according to the combination in which they are given.

When calculating the rations of horses, it has been commonly assumed that the same food has an equal value for both the ruminant and the horse, and though Kellner himself says that his "starch values" may be applied to both horses and ruminants, this is doubtful—at least with a number of foods. Indeed, Armsby gives a much higher value to some foods for the horse than he does for ruminants, so that as some people use Kellner's figures and some Armsby's, it is not surprising that conflicting results are obtained.

If we assume Kellner's deductions to be correct and that 6.6lb. of "starch" will satisfy the demands of a resting horse weighing 1,000lb., then 16lb. of "good" quality meadow hay will constitute a maintenance ration so far as its energy value is concerned, since this quantity of hay has a metabolisable energy of 12,483 C. and a net energy value of 5,355 C. We know in practice that 16lb. of hay is fully as much as an animal of this size could eat in a day. If we refer to any published tables of food values, we find that, while it is stated that 16lb. of "good" meadow hay has a net energy value of 5,355 C., an equal quantity of "very good" meadow hay had a net value of 6,954 C. So that here we have a difference of 1,600 C. in a diet of 16lb. of hay, according to whether the feeder classes it as good or very good. To illustrate still further what confusion exists regarding food values for animals and their application when an attempt is made to construct a diet on "scientific" lines, we may refer to an example of a maintenance ration for a bullock given by Professor T. B. Wood in his recently-published "Animal Nutrition."‡ On p. 169 Wood quotes Kellner's figure for the net energy value of barley straw at 209 C. per lb. and Armsby's figure at 366 C. per lb. Accepting the latter figure, which, as he says, was determined much more recently, Wood considers that 17lb. of barley straw will supply sufficient net energy for the maintenance requirements of a 9 cwt. bullock, that is, 6,000 C. of net energy. (This ration is, of course, deficient in protein, as Wood points out.) In subsequent pages, when compounding rations containing barley straw for bullocks, Wood makes use of Armsby's figure, but in his table of food values leaves the agriculturist to construct his rations from Kellner's figure, which is the one, rightly or wrongly, that is in general use. What this difference in values means is made clear when it is understood that if Armsby's figure is used, then 16·5 lb. of barley straw will presumably supply the 6,000 calories required, and if Kellner's be utilised, then no less than 28·7 will be necessary. If Armsby's figure is right, then Kellner's must of necessity be wrong, and as dairymen have been in the habit of constructing "scientific" rations for their cows from Kellner's figures, they will be perturbed at finding their careful calculations liable to so great an error.

### *Fallacies to be Avoided.*

Attention is drawn to the above simply for the purpose of emphasising the danger of utilising values that are assumed to be correct. When we consider still further the great variation that exists in the quality of the foods given to animals, the divergence in views among those who have studied animal nutrition as to the energy required for maintenance, the fact that in many instances food values, such as they are, for ruminants are assumed to be applicable to the horse and, indeed, even to the pig, and many other conflicting assumptions, one is naturally led to ask, how is one to determine what are maintenance rations

* The Nutrition of Farm Animals. H. P. Armsby. New York, 1917.

† The Maintenance Requirements of Horses. R. G. Linton. Veterinary Journal, April, 1917.

‡ Animal Nutrition. T. B. Wood. Cambridge, 1924.

for the various domesticated animals? It would appear to be necessary before conducting a feeding experiment for the purpose of determining a fine point in animal nutrition to find out the maintenance requirements for each animal for the particular food used. This can only be done by careful and prolonged experiment.

Having determined the maintenance requirements of an animal of any given weight, those for other animals of the same species, but of different weights may be calculated approximately by means of the well-known surface law of Rubner. Though not sufficiently accurate for experimental work, this method may be applied to every-day use provided that it is not interpreted too literally. A considerable margin for error must be allowed. Estimates of the weight of horses are often exaggerated. The writer found the weight of British army horses in good hard-working condition, not fat, to be as follows: Heavy draught mules 1,350lb., heavy draught horses 1,300lb., light draught horses 1,150lb., light draught mules 1,100lb. riders first class 1,075lb., and riders second class 975lb. The average weight of heavy draught horses kept in a fatter condition than those in the army is 14 cwt. It is an exceptional animal that weighs over 16 cwt., though some approach a ton in weight.

A maintenance ration for horses that in the past few years has been well tested is that laid down by the Ministry of Agriculture for horses exported from this country to Europe. For horses of the larger type this is 15—20lb. per day, for smaller animals 10—15lb., and for small ponies and asses 5—10lb. The average weight of these animals, excluding small ponies, is 11 cwt. Some few months ago the writer had a consignment of 22 horses weighed immediately before embarkation and again immediately after disembarkation at Antwerp. Every horse showed a marked increase in weight, and while, as stated before, this increase is in part undoubtedly due to incomplete evacuation of the intestinal tract, it at least indicates that the quantity of hay consumed was not below maintenance requirements.

### *The Maintenance Ration of Dogs.*

The constitution of a healthy dog's normal maintenance ration has received much consideration from veterinary surgeons. It might be thought that the natural diet of the wild dog—flesh, blood, fat, and bones—would also be suitable for dogs kept in partial confinement under domestic conditions. Such a diet, however, is not economical, and experience has shown that it is not necessary. It has also been found that an exclusive diet of flesh does not give as good results as a mixed diet containing a proportion of carbohydrate for dogs doing hard and prolonged work, such as hounds and sheep-dogs, notwithstanding the fact that the dog is naturally a carnivorous feeder. Pariah or scavenger dogs of the East are, as is well known, omnivorous feeders of necessity if not by choice.

A good test of the efficiency of a maintenance ration for dogs kept in more than usual confinement can be made with the diet allowed to dogs kept in quarantine for a six months' period. Many dogs representing most breeds have passed through the quarantine kennels of the Royal (Dick) Veterinary College. The amount of exercise is limited to bi-daily freedom of half an hour or so in an open court. With the exception of one dog, a West Highland terrier, which arrived with an eczematous condition of its skin, all the animals have completed the six months' period in excellent health and without becoming fat. The daily ration of these dogs consists of dog biscuits and horse-flesh. The dog biscuits are made from bakers' "seconds," mutton greaves ("cracklings"), and boiled horse-flesh, to which is added a percentage of salt. The horse-flesh is obtained from healthy horses that have been shot and bled. The ration is divided into two parts; in the morning a dog biscuit is given dry and at 4 p.m. a larger feed is given consisting of broken biscuits soaked in hot water and mixed with part-boiled horse-flesh. The heavy feed is given in the evening in order to keep the dogs quiet during the night. From our experience we conclude that it is better to feed dogs twice during the day instead of once according to the popular idea.

The allowance for an Airedale or collie, weighing approximately 27 kilos, was weighed and analysed. The dog biscuit weighed 380 g., and the fresh unboiled horse-flesh 170 g. The analysis of each was found to be as shown in Table 1.

TABLE I.—*Analysis of Dog Biscuit and Horse-Flesh.*

| | Biscuit. | Horse-flesh. | Total in ration. |
|---|---|---|---|
| | Per cent. | Per cent. | Grammes. |
| Water ... ... | 15·73 | 74·94 | — |
| Fat ... ... | 2·28 | 2·60 | 13 |
| Albuminoids ... | 16·62 | 21·00 | 99 |
| Carbohydrates ... | 62·89 | — | 239 |
| Fibre ... ... | 1·10 | — | — |
| Ash ... ... | 1·38 | 1·08 | — |
| Not accounted for | — | 0·38 | — |
| | 100·00 | 100·00 | 351 |

For the above analyses the writer is indebted to his colleague, Prof. G. H. Gemmell, F.I.C.

This ration, which the clinical department of this College has found by experience to be suitable for adult dogs weighing about 24 kilos and not getting more than sufficient exercise to keep them in good health, was fixed upon without reference to any former investigation undertaken to determine a satisfactory diet. It is, therefore, particularly interesting to compare it with the rations for dogs suggested by Dechambre.§ Dechambre published the results of his investigations in 1919, and stated that he considers that maintenance requirements for the dog can be calculated according to the surface law, as is the case with other animals. He published a table setting out

§ Alimentation du chien par la methode des facteurs du rationement. Recueil Med. Vet., xcv., Nos. 10 and 12, May and June, 1919, 1920.

the maintenance rations for dogs from 5 to 100 kilos in weight, and also gave rations suitable for dogs doing moderate and hard work. For a dog of 27 kilos, such as an Airedale or collie, he allows for maintenance: Protein 55 g., fat 15 g., and carbohydrate 300 g., giving a total of 388 nutritive units reckoned on the formula (total protein + total carbohydrate + total fat × 2·2). The compared rations in grammes, therefore, are as given in Table II.

TABLE II.—*Prepared Ration in Grammes.*

| | Protein. | Fat. | Carbo-hydrate | Total nutritive units. |
|---|---|---|---|---|
| Dechambre ... | 55 | 15 | 300 | 388 |
| R. (D.) V. C.... | 99 | 13 | 239 | 367 |
| Difference ... | +44 | —2 | —61 | —21 |

A comparison of these two rations shows that there is a close similarity in the total nutritive units supplied, but the diet given in this College contains nearly twice as much protein as that recommended by Dechambre and considerably less carbohydrate. The total protein allowed by Dechambre for hard-working dogs of 27 kilos weight is 100 g. As the 380 g. of dog biscuit contains 63 g. of protein, it might be assumed that the biscuits by themselves would constitute a complete food, at least for adult dogs, but experience has shown us that excellent health is maintained when the above quantity of horse-flesh is added to the biscuits. It is also to be assumed that a proportion of the mutton greaves or "cracklings" is not digested by the dog, but at the same time it will serve a useful purpose by supplying bulk to the ration and to some extent take the place of the bones and more or less indigestible skin, some of which is, no doubt, consumed by the dog in its natural state. The albuminoid ratio of Dechambers' ration for the resting dog of 27 kilos is 1 to 6; that of this College, calculated from the chemical analysis, is 1 to 2·7 (the albuminoid ratio of bitch's milk is 1 to 2·2.

It is not suggested that either the ration of Dechambre or that in use here would be suitable for nursing bitches or growing pups. To make the diet complete, bones should be added, and the best for this purpose are soft calf bones or the rib bones of lambs, which are easily masticated and digested. Rabbit, game, and poultry bones are to be avoided owing to their splintery nature and the frequency with which they cause serious intestinal lacerations. Though under more natural conditions, such as on farms, dogs possess the capacity to digest these splintery bones without apparently doing them any harm, house-dogs certainly have little power to do so. Some bulky food that is not so readily digested as flesh is an essential constituent of a maintenance ration for the dog, otherwise the excretion of waste products is delayed. Bones, furthermore, are very desirable in order to stiffen and harden the fæces

(*Continued at foot of next column.*)

## More Stray Thoughts.

By R. E. ALEXANDER, M.R.C.V.S., Liverpool.

PHOTOGRAPHY IN GENERAL PRACTICE.

Here we come to something more tangible. In my opinion the use of photography adds great interest in conducting a practice. It does not confer much extra trouble to photograph interesting pathological cases, abnormalities, cases before and after treatment, and new methods of restraint. Some veterinarians retain sufficient enthusiasm to record their interesting cases, and an album of photographs with short descriptive notes would be even more attractive. They are also of use in illustrating articles for the *Veterinary Record* and *Journal*, and for adding interest to lectures.

A Kodak is undoubtedly handy, but an English film camera fitted with a long extension of the bellows is better, so that one can record an object only two feet away if necessary. A long extension is useful for photographing viscera, such as a twist in the bowel, gross tubercular lesions, or foreign bodies. These can be photographed on the spot where the *post-mortem* is made; the camera should be rested on a solid object, and an exposure of a few seconds made through a small diaphragm. Cats and dogs can be snapped from three or four feet, and the larger animals present no difficulty. Owners like their animals to be photographed, and always appreciate the extra interest taken. It is wonderful what an excellent photograph can be taken inside a dark byre with a few seconds exposure.

Busy men prefer to have their films developed outside, but it adds interest to perform one's own work. A small dark room adjacent to the surgery is useful. In fact, many surgeries are quite dark enough already. Apart from this, any film can be developed in daylight in these luxurious days.

Photographs explain a lot. In our student days we pore over a description of operative technique for hours, and at the finish our minds are perfectly blank. But with the aid of a good picture we see it at once.

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(*Continued from previous column.*)

and thus cause evacuation of the anal glands when the rectum is emptied.

In regard to the utilisation of *raw* flesh as part of the normal healthy dog's ration, this would not seem to be necessary. On the other hand, clinical experience has shown us that many cases of eczema in the dog are cured simply by making a complete change in the diet, withholding all carbonaceous food and giving raw flesh only. The potato above all foods seems to give the worst results, and in the opinion of many of us is responsible for a considerable amount of intestinal irritation and cutaneous lesions of an eczematous nature. Excessive feeding with porridge to house-dogs deprived of sufficient exercise also seems to be accountable for some of these troublesome conditions.

# Victoria Veterinary Benevolent Fund.

(INCORPORATED.)

By kind permission of the Council of the NATIONAL VETERINARY MEDICAL ASSOCIATION this appeal is being circulated to members of the profession through the medium of the VETERINARY RECORD.

The Fund relieves necessitous and deserving widows and orphans of Veterinary Surgeons by small weekly grants, varying according to circumstances, and more than £1,000 a year is spent in this way.

Applications are being constantly received, but the funds at the disposal of the Council permit of no new grants being made.

Will every member of the profession ask himself if he cannot spare an Annual Subscription of HALF-A-GUINEA?

Fifty new subscriptions would enable the Council to make a grant of 10/- a week to some distressed widow or child of a Veterinary Surgeon, who otherwise, to the regret of the Council, cannot be relieved.

## *Please Help!*

All subscriptions go to current relief. Donations are invested and the interest only used.

The fund is administered by an elected Council and every case receives careful and sympathetic consideration.

Subscriptions should be made payable to the Victoria Veterinary Benevolent Fund, and sent to the Secretary, at 10 Red Lion Square, London, W.C.1., who will gladly supply any further information desired.

I beg to enclose herewith £ : : as my Annual Subscription to the VICTORIA VETERINARY BENEVOLENT FUND.

Name.....

.....

Date..... .....

THE SECRETARY,
THE VICTORIA VETERINARY BENEVOLENT FUND,
10 RED LION SQUARE, LONDON, W.C.1.

This applies to such things as opening of the guttural pouches and the operations for quittor.

But above all, photographs of a successful case give much satisfaction to the surgeon. A once-emaciated animal looking nice and fat, a tumour successfully removed, a nasty wound beautifully healed, these make it worth while.

### The Surgery.

Surgeries are always interesting. They possess a character of their own, and their power of growth is unlimited. As a rule the veterinary surgeon has little control over them. I know one old-established practitioner who tries to tame his surgery every six months. It is a solemn and awe-inspiring procedure. With an air of grim determination he takes all the bottles down and dusts them. Old, torn and dirty labels are replaced. Empty bottles, broken corks, paper and other litter are thrown away. The shelves are swept, the instruments are solemnly removed from the glass case, polished, greased, and replaced in new positions. At the end of three days there is an air of unfamiliarity about the place that is overwhelming. Everybody feels uncomfortable in it.

In a fortnight it is more dusty and familar. Some of the new labels are stained, and one cannot lean on the counter without finding one's elbow in the cantharides blister. The powerful surgical smell is more pronounced. The books on the shelf again lean in all directions in an abandoned fashion.

In three months . . . if a new assistant has to make up some powders, it reduces him to profanity in a few minutes. For it takes weeks to distinguish the linseed oil bottle from the chlorodyne, and to know that the square tin under the counter contains Ammon. Carb., and that the stone jar in the corner harbours the Antifebrin.

All surgeries have one thing in common, and that is the smell. If the veterinary surgeon is away from home, all that he need do is to hold a small bottle containing some powdered aloes, nux vomica, and catechu to his nose, shut his eyes, and he will feel as though he were back in the surgery.

Some surgeries are dark and mystical. There is an air of gloom about them reminiscent of a ruined monastery. Rows of bottles are just discernible through the gloom, strange mixtures repose in the large mortars, and queer ropes and chains hang on the walls. In the bookcase will be found bound copies of journals of a bye-gone age, original editions of Fleming, copies of Percival, and catalogues of agricultural shows past and gone.

Others are large, bright, and cheerful, with a large polished counter, and bright brass scales. The bottles stand forth in the bright daylight. Such surgeries are more comfortable, but not nearly so impressive to the spectator.

The "canine practice" surgery is distinguished by the vast number of pills that are on view. The "country practice" surgery contains large numbers of powders neatly folded up, colic mixture, and cleansing drenches. The composition of the latter is a mystery to me. I have never had the courage to enquire. Many authorities have no faith in them, but I hate to think this. They look so nice in their neat cardboard boxes that one feels they must do something. So may their constituents remain a mystery to me, and speak not of powdered ergot and ammonium carbonate.

Surgeries seem the sole room in a house in which the feminine element do not enter. They do not like the "hospital" smell. All henpecked men should take the diploma of the R.C.V.S., for they could always take refuge in the dispensary during times of domestic strife. It seems to be the one apartment that is not "spring-cleaned."

Some surgeries have a tendency to overflow. Empty Winchester quarts litter the passages, bottles and drug lists confront one on the dining room mantelpiece, and the familar white lotion may appear in one's bedroom. This is rare, I admit, but in one place in which I resided there was a tape-worm in my bedroom. In spirits, of course. I don't know whether he was there as an ornament, or for company, but he annoyed me. Every morning I used to try and count his segments while fastening my collar-stud. Not only that, it was humiliating in a way to share a bedroom with a cestode. I would rather have an antimacassar, aspidistra, or a stuffed trout with glass case complete.

Another fascinating thing about some surgeries are the attractive little drawers with Mag. Sulph., etc., painted thereon. They are disappointing to open as a rule, generally containing bits of string or paper, and usually some of the legends are obliterated. I should like a set, but my surgery is so damp, I am compelled to keep everything in jars. Finally, there is the desk where the day book resides. . . . . .

But that would need an essay to itself.

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### Personal.

*Marriage.*—On July 23rd, 1924, at Loughbrickland Presbyterian Church, by the Rev. William Moore, M.A., T. G. Browne, M.R.C.V.S., Professor of Anatomy, Royal Veterinary College of Ireland, Dublin, to Margaret (Meg), youngest daughter of George F. Power, Banbridge.

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*Appointment.*—Major J. J. Dunlop, M.C., D.V.S.M., M.R.C.V.S., has been appointed Temporary Veterinary Inspector to the Mines Department.

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### The Late Mr. Harry Lukes.

A veterinarian who spent his life, after graduating in England, in the U.S.A. has passed away in Mr. Harry Lukes, of Springfield, Massachusetts. Mr. Lukes, who was 58 years of age, held the positions of State and of city inspector of meats and provisions, and of animals. He was born in Cornwall on April 9th, 1866, son of Thomas Henry and Mary Pearce (White) Lukes. Educated at Cornwall and Devon, Mr. Lukes entered the Royal Veterinary College in London, from which he graduated in 1887, proceeding to Massachusetts in the following year. The deceased gentleman was a member of the American and Massachusetts Veterinary Associations, of the Kiwanis and the Automobile Clubs of Springfield. He leaves a wife, Mrs. Margaret F. (Cooney) Lukes, and a daughter, Miss Ruth M. Lukes, who lives at home; a brother, Jack Lukes, and a sister, Mrs. Ada Trodinnick, both of England.

**The Veterinary Record.**

*9th August, 1924.*

## THE BUFF BOOK.

Eighty years ago, when the first Royal Charter was granted which instituted the Royal College of Veterinary Surgeons and at the same time authorised the practice of the Veterinary Art to be known and recognised thenceforth as a profession, it was scarcely to be expected that veterinary surgeons would soon be able to change their habits and assume for themselves those attributes which are to be found amongst professional men. It might be expected that such men would never be wholly able to do so; it might even be expected that a generation must pass before veterinary surgeons acquired any professional instinct at all. More than three generations have now passed, and though some progress has been made, if we are to take our place on an equality with other learned professions, there is still need of very great improvement in the manner in which we conduct ourselves. For some twenty or thirty years there has been evidence of a desire that "the profession" should be accepted by the public as holding a true professional status. Anxiety has been constantly expressed both in speech and in print that members should act in a professional manner, but it has been the exception rather than the rule that members—even the more exalted members—should translate words into actions. Example is better than precept; yet the tendency has always been to denounce the doings or shortcomings of others, while taking every care that nothing (or at the most very little) should prevent the denouncer from using trade methods and acting as a tradesman if by any chance his receipts might be augmented in the process. What did such men care if a learned profession was degraded by them? What did they care for science? What did they care if their example should influence younger men to follow in their footsteps? The noble aspirations for the profession, as voiced by such men, were arrant hypocrisy. The diploma of the Royal College, carrying with it the much-prized licence to practise, was used simply as a cloak to hide a glorified system of commerce. These tradesmen, for that is what they were, used their diploma for the purpose of giving their trade the glamour and name of a profession. And the public has assessed it accordingly.

We hear to-day on all sides the demand expressed that the status of the profession must be raised. This is a most laudable aspiration, but it entails in the first place a much more rigid rule of conduct on the part of veterinary surgeons themselves. It is by the strict professional conduct of individuals, even in the smallest detail, that our profession will be judged and its status assessed. It is for this reason that we cannot but regret to find 133 entries under the heading "Veterinary Surgeons (M.R.C.V.S.)" in the "Buff Book"—"Trade and Commercial Directory of London," which is issued by the G.P.O. to every telephone subscriber. Here we have large numbers of London practitioners labelling themselves as tradesmen and assenting to their profession being classified with branches of trade and commerce. Some of the names are those of men who are very well known, to whom the members naturally look for an example. Amongst them we regret to see the Royal College of Veterinary Surgeons and the Royal Veterinary College. We have looked through the Buff Book and have failed to find any other learned profession classified amongst the trades. Doctors, lawyers, even chartered accountants, have too much respect for their professions to allow their names to appear. "A man is judged by the company he keeps." Hence we sincerely hope that an effort will be made by the members concerned to help our profession to shake itself clear of its present company in the Buff Book and break the bonds which are sadly impeding the steps of our profession along the path of progress.

## CLINICAL NOTES.

### Obstetrics.

By W. R. Davis, M.R.C.V.S., Enfield.

I am prompted to send you the following note through reading in the recently published *System of Veterinary Medicine and Surgery*, by Professor Wooldridge, that in the posterior presentation no attempt at delivery should be made until the fœtal hind legs have been adjusted, and are in the pelvis.

On Saturday evening last I was called to a dairy shorthorn cow that had been trying to calve during most of the day. The cow was straining violently, and the calf's tail could be seen at the vulva. On making an exploration, I found the calf's pelvis tightly wedged in the passage with both of the hind legs extended forward. I tried but could not push the fœtus into the uterus. Now, what is to be done? Am I to rope the cow's hind legs, pull her hind part up, and then try retropulsion and subsequent adjustment of the deviated head limbs, or would it be better to do an embryotomy, disarticulating the femora, roping their heads and pulling out the legs? Either of these proceedings demands time, strength, and skill on the part of the operator, and considerable help from assistants (not always available on Saturday night, when the farm labourer may desire to take his ease at his inn). I had two men and a boy to help me, and I do not suppose that they desired the proceedings prolonged. After thoroughly lubricating

the maternal passages and also the available parts of the fœtus, I inserted a hooked steel rod, guided by the left hand up the rectum of the calf, and made it grip on the fœtal pubis. The four of us then pulled on the rod, and in a few minutes we had delivered the calf, which had been dead some hours. On now examining the cow, I found a second calf, a posterior presentation also, but the legs properly placed; this fœtus was delivered alive without difficulty. I was not half-an-hour on the farm, and if I had attempted some of the methods recommended I would probably have been there until midnight.

I do not think that there is any branch of our work in which clinical notes are of more value than in obstetrics. I know that I have gained a good deal of knowledge in the art by reading how practitioners in it have overcome their difficulties. It is very helpful to the inexperienced to be told what may be attempted with safety and what is impossible.

Mr. H. C. Reeks, F.R.C.V.S., told us some time ago that in the mare if the foal presents with two fore legs but head back, the foal may quite safely be delivered as it is. We know how many mares are lost by long continued and often fruitless attempts to rectify the deviated head. This year I was called to a thorough-bred mare that had foaled a dead foal early in the morning, but was still straining badly. On making an exploration the two fore legs of a second foal were found, but no head could be made out. After searching in vain for a quarter of an hour I determined to act on Mr. Reeks's hint. After well lubricating the parts the two fore legs were corded above the knees. The mare was tied up short with a couple of halters.

The cords on the foals' legs were wound round a stout piece of wood, which was pulled by six men, and the foal was delivered, certainly under ten minutes. The mare stood up during the ordeal, has made a good recovery, and is believed to be again in foal. In this case the foal's head was between the fore legs and was buried in the foal's abdomen.

## Horse-fat as a Basis for Ointments.

By Lt.-Col. J. W. Rainey, M.R.C.V.S., F.Z.S., London.

One of the notable advances in recent times in the treatment of sarcoptic mange was the introduction, during the late war, of horse-fat as the vehicle when oleaginous sulphur mixtures were used.

It was fully demonstrated on a great scale that when any other fatty vehicle (animal, vegetable, or mineral) was used, more or less dermatitis occurred, but that horse-fat was harmless in this respect.

It seems reasonable to assume that ointments used for any purpose in equine practice should be equally bland and penetrating so far as the vehicle is concerned. Acting on this assumption, the writer began, about a year ago, to use boric and zinc ointment prepared with horse-fat.

The ointments were prepared by Messrs. Hewlett, according to the B.P. formulæ, except that specially purified horse-fat was substituted for the soft paraffin or lard. The results have been most satisfactory. The advantage of the new zinc ointment is especially noticeable in the treatment of inflammatory or eczematous conditions of the skin in the hollow of the heel or behind the knee, or in front of the hock.

The absorption of iodine or other drug through the unbroken skin by means of inunction is more likely to be effected when the vehicle does not cause an inflammatory reaction of the skin into which the ointment is rubbed. Horse-fat will not cause this reaction in the skin of the horse.

## REVIEW.

(**The Practical Horsekeeper**, by C. Fleming, LL.D. Second and Revised Edition by H. Gray, M.R.C.V.S. Published by "The Bazaar, Exchange and Mart," 54 Drury Lane, W.C.2. Price 6s.)

Contains a considerable amount of knowledge useful to that section of the community which is interested in the horse; but it is rather disappointing, as its merit is largely discounted by evidence of hasty construction in some of its chapters, whereby many grammatical errors have crept in, a fault which greatly detracts from the interest of the work.

Studies Concerning the Handling of Milk.

The Ministry of Agriculture has recently issued a Miscellaneous publication, No. 41, under the title of "Studies concerning the Handling of Milk," price 1s. net, post free. The studies are a compilation by the staff of the National Institute for Dairy Research, University College, Reading, of the results of their several experiences and investigations with regard to milk.

The Institute, as pointed out by Sir Daniel Hall in a preface to the volume, is the main educational centre for dairying research in the country, and has been very materially assisted out of State funds. In 1912-13 the Ministry's annual grant to the Institute was £1,510, an amount which has gradually been increased to about £8,000 a year. Since the war the Treasury has sanctioned capital grants amounting to £32,000 for the Institute on the condition that equal sums were raised from other sources. With this assistance, and also largely through the munificence of Viscount Elveden, the Institute has been able to be provided with new buildings and a farm of its own where its work will continue and develop under the best conditions.

The publication contains some very interesting chapters on such varied subjects as the keeping qualities of milk, the factors concerned in providing a clean milk supply, steam sterilization, the importance of clean milk in milk industries other than the whole milk trade, the discolouration in Stilton cheese, and yeasts in milk and cheese. It has been written in as simple language as the nature of the subjects readily allows, and constitutes a valuable addition to the literature of dairying.

# DIVISIONAL REPORT.

## Central and Royal Counties Divisions.

### Joint Meeting at Reading.

### The National Institute for Research in Dairying.

No element was lacking to make the visit of these divisions to the National Institute for Research in Dairying at Shinfield, near Reading, which took place on July 11th, the memorable occasion foretold by those conversant with its activities as affecting veterinary problems and interests. Both divisions were strongly represented, and the staff of the Institute excelled themselves in carrying out the programme of scientific sight-seeing and instruction arranged by the organisers, while a perfect mid-summer day provided ideal circumstances for such an outing.

The company proceeded to Shinfield from Reading by motor coach, and brief formal meetings were held at the outset by both divisions.

The following were present: Messrs. A. H. Andrew, R. Page Ball, A. Barr, T. D. Broad, W. Brown, J. W. Baxter, R. Catmur, J. C. Coleman, H. B. Collet, Miss A. Cust, Messrs. A. C. Duncan, J. R. Hewer, T. M. C. Hunt, E. E. Jelbart, H. Kirk, H. G. Lepper, W. L. Little, G. H. Livesey, J. F. Macdonald, G. P. Male, G. D. Martin, J. W. McIntosh, Prof. Pennington, E. B. Reynolds, H. L. Roberts, E. E. Seldon, P. J. Simpson, S. L. Slocock, A. Spicer, F. H. Stainton, R. C. Tennant, F. T. Trewin, R. J. Verney, F. Ware, W. F. Widden, E. Wilkinson, A. E. Willett, F. W. Willett, and J. Willett.

*Visitors*: Mr. A. J. Baxter, Dr. Beggs, Dr. Brewer, Mr. C. Davenport, Dr. Dunstan, Messrs. R. Gregg, H. H. Greenwood, W. W. Lang, S. W. Marriott, S. Stevens, and L. W. Webb.

Mr. J. W. McIntosh presided over the meeting of the Royal Counties Division.

The minutes of the previous meeting, having been published in the *Record*, were confirmed and signed.

Apologies for non-attendance were announced from Messrs. H. J. Dawes, S. H. Slocock and T. F. Spencer.

The President moved, and Mr. J. Willett seconded, that the Secretary convey to Mr. Slocock the most sincere congratulations of the division on his election to the Presidential Chair of the Royal College of Veterinary Surgeons. It was an honour, said the President, which they were all delighted to know had been conferred upon one who had, by reason of many years valuable service, most thoroughly merited it. The proposition was carried with acclamation.

*Election.*—Mr. E. Wilkinson, of Witney, who was nominated at the previous meeting, was unanimously elected a member of the division.

The President expressed his great regret at his inability to represent the division at the Royal Sanitary Institute Congress to be held at Liverpool the following week, although he had previously been appointed to attend. He called for further nominations, but none were made.

It was decided to hold the next meeting of the division in London.

Mr. J. Willett presided over the meeting of the Central Division, apologising on behalf of the President, Major G. Rees-Mogg, for the fact that the latter would not arrive until later in the afternoon.

The minutes of the previous meeting, which had received publication in the *Record*, were confirmed and signed.

Apologies for absence were announced from Sir John Moore Major F. T. G. Hobday, and Messrs. G. Bushman, T. W. M. Cameron, W. Perryman, L. E. Pritchard, and Mr. J. Rowe.

The Secretary informed the meeting that the family of the late Mr. W. J. Mulvey had written appreciatively of the action of the division in sending a resolution of sympathy with them in their bereavement.

In connection with the annual dinner, a letter was read containing the information that the Gordon Room of the Holborn Restaurant was being provisionally reserved.

*Election.*—The rule as to the balloting for election having been suspended by resolution, Mr. T. W. M. Cameron, M.A., B.Sc., Ph.D., of the London School of Tropical Medicine, Endsleigh Gardens, N.W.1., was unanimously elected, on a show of hands, a member of the division.

This concluded the formal business of the meetings.

Major P. J. Simpson, the Secretary of the Royal Counties Division, said that he desired to express his thanks to the gentleman who had carried out all the local arrangements for that joint meeting, Captain W. L. Little. He was sure all present wished to join with him in expressing their appreciation of their efforts. (Applause.)

Mr. J. F. Macdonald, Secretary of the Central Division, voiced the thanks of the members of his division to the gentleman mentioned, adding that the Central Division were greatly indebted also to Major Simpson and the Royal Counties Division for the invitation which had enabled them to share in so interesting a visit.

### Address by Dr. Stenhouse Williams.

Mr. J. W. McIntosh briefly introduced Dr. Williams, "by whose great kindness we are privileged to meet under these favourable conditions to-day."

Dr. Stenhouse Williams, Principal of the National Institute for Research in Dairying (University College, Reading), who was enthusiastically received, said:—I need not tell you how extremely glad we all of us are to see you here. I am a little doubtful as to what I should say, but perhaps it would be as well if I gave you a little of the history of this place, because it is rather a wonderful history.

It was started in 1912, when two of us, Dr. Golding and myself, came down to Reading to see what we might do to try and help the milk trade, and we had a couple of empty rooms allotted to us. We had

very little money, no real laboratory, no dairies and no cows, and nobody knew what we were going to do, for which I have always been devoutly thankful (laughter). We simply took what came along, and gradually collected material upon which to work. Our actual monetary resources amounted to £1,500 per annum, for payment of staff, laboratory, workers and all running expenses. This has been expanded by increased grants and by an appeal fund. It was not long before we discovered that dirty milk was an extremely serious source of loss to the trade, because people will not buy milk if it goes sour in their houses, and, moreover, it was milk which undoubtedly justified the use of the term "diseased." One felt sure that these things were not good—on the other hand, one did not know what the extent of its harmfulness was because, curiously enough, in the work that we do we have practically no statistics to help us. So one of us set to work to institute what, I think, was the first enquiry ever made to try and find out what was the loss to the industry as the result of the souring of milk, and the facts were published. That revealed that the problem was a big one that we, with an institute such as ours, might set to work to endeavour to solve, and so we did.

The first thing to be done was to get at the real fundamental facts. I had, before I came here, worked for some years on the public health side, because I was in charge of the Public Health Laboratories of Liverpool, and so I had the opportunity of seeing this trade as it looks from the doctor's point of view, which I think proved very help ful to us. Thus we got down to the "muttons" of the matter. We got away from the idea that you can produce clean milk by having white tiles on the dairy wall, and we came to the conclusion that if your worker is not right, nothing will be right. We had some very illuminating experiences in this connection. I remember a case in which the milk which was the subject of my examination came from a certified dairy which had every conceivable appliance for producing clean milk, and yet that dairy did not do it; on the other hand, we were able to produce milk which was clean in what was, perhaps, the worst cow-shed in the world. In the end, although our cow-shed was so extremely bad, we got our licence from the Ministry of Health as a Grade "A" milk producing establishment. That, in itself, was a wonderful illustration of the new attitude of mind which I believe is growing up in this country towards the public health question. The doctors are now beginning to realise that in this work it is the people engaged in it who constitute the most important factor, and that if their work is efficient that is all that is necessary. We are able to simplify the whole procedure. Provided that we have the right kind of men in the cow shed and an adequate supply of light, water and steam, it is possible for anybody to produce clean milk in almost any cow-shed.

That is not to say that improvements in the cow-shed are not also a great advantage—they are a tremendous advantage. If, for instance, you cut down the cows' standing so as to make it of the right length, you obviously diminish your labour tremendously. But the way to get on with this business is to begin with the mind, to train the worker engaged in the routine habits of cleanliness, and not to be spending too much on buildings, especially when the alterations which are sometimes suggested mean the initial expenditure of large sums of money.

I am running over work that took us a great deal of time and thought for seven or eight years at least. During that time other things were happening—one, in particular, of great importance was taking place externally to the institution. We are extremely fortunate in the type of farmer that we get in Berkshire: they are a wonderful crowd of men, and when we told them of the work that we were doing, they began to think. During practically the whole of the war period the work was progressing; all milk came under government control and for the first time in this country licences were given for different types of milk in comparison with ordinary milk. Graded milk was first authorised under the Defence of the Realm Act in 1918, when a Food Order was issued, although in 1916 and 1917 various Orders allowed farmers to charge higher prices if they could prove that they had been receiving more than ordinary market price before the war. In 1916 and 1917, however, there was no Grade A milk, this not being authorised until 1918, as I have said. Our men, who were a very live lot, seized this opportunity, and they proceeded to test their herds in order to get rid of those animals that reacted to tuberculin. At the same time they worked with us on the cleanliness side, and the natural result of it all was that they found, as time went on, that the testing of herds was not done as an act of charity to the nation, and that, in fact, it was a paying proposition. I am glad of that for two reasons. In the first place, we are out to sell the milk the public asks us for—a milk which is clean and which is free from disease. For all practical purposes in this country tuberculosis is almost the only disease we have to fear in the milk trade, so that when you are offering the public a clean milk, such as Grade A milk, if it is properly produced, and a tested milk, you are really offering the public the milk which it needs. At the present time this milk has reached the proportion of one-sixth of the whole milk supply of the town. We are charging a penny per quart extra for it, and it is bought by the poor quite as much as it is by the rich. It is now the supply of all our hospitals and our health centre, and of all the schools in the town, so that we are really getting ahead with our work. (Applause.) It has produced an alteration in the mentality of the people producing it. They feel that they have something of which they can be really proud. They are glad to see you; they do not feel that they have any desire to hide anything. And, of course, they have every reason to be proud. (Applause.) Within the last week we have taken round our local farms people from many other parts of England, we have also had two parties from Holland, and the Minister of Agriculture for Northern Ireland.

The farmer will tell you that he is producing something which enormously reduces disease in his cow-shed: he finds that milk recording improves the efficacy of the work right through his farm. You get less disease, you get a different kind of mentality amongst your people, and you are giving the public an article which the public has a right to have. (Applause.)

If we have got sufficient courage and do not allow ourselves to be overborne by inevitable difficulties, we have got the world completely beaten. There is no country of which I know in the world which is giving its people a milk that can compare with the Grade A milk, which is now being supplied in this country, for quality and purity.

The tuberculin test should be a sound economic proposition in dairy farming, and it should be encouraged, possibly by making tuberculin testing free to the farmer, but *not* by subsidies to the farmer for removing reactors.

I hope I have made it quite clear that by no means all the credit for what has been accomplished in this institution and amongst the farming community in this area belongs to us. We were greatly helped by the fact that during the war these new licences, which commanded a better price, were issued by the Government, and then we all worked together.

As you go round you will see many other sides of the work which this institution is doing. We are studying problems in a variety of fields of scientific effort, in particular, perhaps, I might mention the problem of nutrition, in many of its aspects. In addition, we are never done raising money. We still have a lot to raise, but I hope that when you go round you will be satisfied that we have honestly tried to do our work to the best of our ability during the eleven years we have been here.

I welcome you, on behalf of myself and my colleagues, with all my heart. (Applause.)

The company then formed two parties, which were conducted round the splendidly-equipped and housed institute. Detailed explanation of the work of the various departments was given by the respective members of the staff in charge, and a most interesting and instructive time was spent.

The farm and dairy were inspected under the guidance of Mr. S. Bartlett, who directed special attention to the old and extremely primitive cow-sheds in which Grade A milk was produced for some time, so showing that milk of good hygienic quality can be produced through careful attention to detail, in spite of poor byres, dairy, etc.

The new milking shed, which embodies abundance of light, air, non-porous walls, standings and floors, with facilities for hosing, was shown, while milking and cow grooming was in progress. The dairy and its equipment were examined. This dairy is designed for the handling of milk and the manufacture of cheese and butter under experimental or wholesale conditions. Like the milking shed, it can be hosed from ceiling to floor, has ample light, air, absence of porous walls (cemented smooth) and floors, and no places where dust can be harboured.

The calf pens embody a special feature in that tubular partitions are employed, and that each calf is allotted a separate pen. The cattle yards are designed for the easy employment of the green-soiling system of feeding, and are equipped with standings conveniently placed near the food stores for the carrying out of feeding experiments; ample light and air are the predominant features, so that the animals' health and constitution shall in no way be impaired.

Plans and descriptions of the buildings are described in the *Journal of the Ministry of Agriculture and Fisheries*, Vol. XXIX., No. 5, August 1922. Considerable interest in the silo and the cutting and blowing-in of the crop was shown by some visitors.

### The Brom-cresol Test for Abnormal Milks.

A demonstration of this test and its application was given by Mr. F. Proctor, who described that a convenient way of performing the test was to use specially prepared absorbent paper impregnated with this sensitive indicator of slight alkalinity. "Normal milk" gives a pale grey-blue colour, whereas "abnormal milk" gives a deep purple colour.

The milk of cows suffering from various forms of mastitis and sudden chills gives a deep reaction, and it is possible to detect sometimes an abnormal condition of an udder a day or two before any clinical examination yields a positive result, and to treat accordingly. Mr. Roberts, of Ipswich, corroborated this, and spoke of his experience of it in practice.

Milk which reacts to this test does not yield a good curd for cheesemaking, but one that is soft and unmanageable. An example was given of a cow under observation which suffered from a slight chill in a fore quarter, and whose milk from that quarter did not become normal to brom-cresol again after the chill had gone. After about a month the other fore quarter began to give abnormal milk very suddenly, without any chill being noticed. During this period the milk was of usual appearance, but as time went on it became slightly flakey, and then somewhat "lumpy," until it was nothing but clots when drying-off began. This was accompanied by a gradual hardening and eventual induration of the quarters.

Usually, however, when an acute chill has subsided the milk becomes normal to brom-cresol, and this test may well be used to ascertain when this condition has been reached.

In the bacteriological laboratories Mr. A. T. R. Rattick gave an outline of the researches being undertaken. Some of these were of great interest to the visitors.

He described and exhibited an organism, *Corynebacterium fluridum*, a diphtheroid which was the cause of a form of mastitis in the udder of a cow with partial loss of secretion. The organism is difficult of culture at first on artificial media, but later grows fairly freely. Clinical symptoms appeared to be slight, but considerable damage has done to the infected quarter.

Another item of interest was "oily milk," which was first brought to the attention of the institute by Mr. H. L. Roberts, F.R.C.V.S., of Ipswich. During the cold months much milk is lost through the development of an offensive oily flavour in the milk. It is not improved by pasteurization and appears to develop only at fairly low temperatures. An organism isolated from this milk was exhibited and was capable of producing the taint. The source of the contamination is being sought, since grave losses has occurred in the past three winters.

Captain GOLDING gave the following details of recent researches conducted in connection with the chemical section of the institute. Dealing with work on accessory food factors, Captain Golding said: The discovery of florid rickets on the microscopic examination of the bones of experimental pigs fed on dried separated milk, toppings, barley meal and phosphate of lime, led to a further and more extended series of experiments, in which eleven young pigs, reared on the farm were fed on a similar diet, direct sunlight being excluded.

All eleven pigs went "off their feet." Two were cured in the same surroundings and a similar diet but with the addition of half an ounce of cod-liver oil daily. Two others were cured by means of direct sunlight, the diet remaining the same as before. The remainder have been slaughtered and their bones are under examination. All the pigs grew well and were fat, which indicates the presence of the growth-promoting factor in their diet. Their obviously diseased condition points to a lack of the newly-recognised anti-rachitic factor in their diet.

It is hoped that the experiments, when concluded, will serve to clear up the much-vexed question as to the origin of this disease, and indicate the constituents of fresh milk, which counteract it, and the properties on which the action of such constituents depends.

In extending and repeating the work of last year on the effect of stall feeding of cows and on the nature and composition of their milk, many new facts have come to light.

In this experiment the milk of four individual cows was closely studied from November to July. The milk was sampled and tested at each meal during the period, larger samples being taken for rat feeding, and butter was made separately from the milk of each cow at frequent intervals. The butter was made and examined by Mr. Todd and Miss Dearden, and the chemical examinations of the butter fats were made by Mr. H. G. Channon at University College, Gower Street. The analyses of the milk were made at Shinfield.

The feeding and examination of the cows was done by Mr. Mackintosh and his staff.

The outstanding features of the results which have formed the subject of two papers read to the Biochemical Society are: (1) The superiority of meadow hay as compared with seeds hay as a source of the growth promoting vitamin. (2) The direct influence of the nature of the oil fed on the composition of the butter fat. (3) The influence of cod-liver oil in increasing the Vitamin A content of butter. (4) The marked influence of arachis oil and coconut oil on the composition of the butter. (5) The lack of unpleasant flavour in the milk even when eight ounces of cod-liver oil were fed daily. (6) The slow response of pigmentation of the butter to grass feeding after the absence of colour under conditions of stall feeding. Other interesting factors were observed in this study of the milk of individual cows, such as differences in the time of churning and variations in composition of milk, which will form the subject of future work.

The party inspected the two steam boilers of Lincoln type which supply steam to the water pumping plant, power and lighting plant, whey drying rolls, central heating and hot water services, and all the requirements of the dairy.

The power and lighting plant consists of two dynamos, each of 230 volts., 20 k.w., and 87 amps.; and a booster set for battery charging. Current is supplied to motors for running the barn machinery and the dairy refrigerating plant, and several laboratory small motors.

The well was bored to a depth of 327 feet, and the water is pumped by a steam driven deep well pump to a water tower 50 feet high, of 10,000 gallons capacity. The temperature of the water is 53° F. The water for the boilers and hot tap water service is softened by a Permutit softener.

The calorifiers of the central heating and hot water systems are automatically controlled for any desired temperature, and the water is kept circulating by electrically driven turbo pumps.

Major MAULE, in the *Journal of the Ministry of Agriculture* for August, 1922, says:—

"The most interesting point noted about the farm buildings is that the method adopted by the institute embodies another principle in cowkeeping. The traditional cow-shed method is discarded in favour of the principle of keeping and feeding the herd in covered yards, milking being performed in a building erected solely for that purpose. From the practical and structural point of view, this departure from tradition is of great interest and importance, coming, as it does, at a time when the necessity for improved methods in the production of clean milk is being increasingly realised, and many farmers are anxious to know what steps they can take to secure better conditions without undue capital expenditure. Two points must, however, be borne in mind in connection with this scheme: (1) the fact that the method adopted is distinct in principle from the ordinary practice, and (2) that the peculiar needs of a Research Institute, where experiment and trial are the root factors, do not necessarily apply to ordinary commercial farming. Nevertheless, the plans offer some food for thought, and to those who own extensive but out-of-date and inadequate buildings, the suggestion may be of value that improvement for commercial purposes could be inexpensively undertaken on similar lines to those deliberately adopted by the institute authorities.

" There must be many farms where existing cow-sheds, no longer in conformity with modern ideas and methods of clean milk production, could be cheaply converted into milking sheds, and where, by the adaptation of an open yard into a covered yard somewhat on the lines of the plans shown, ample provision could be made for the accommodation of a considerable herd of milking cows, and at less cost than building a modern cow-shed for the same number. . . . .

" It may be said that the old farm buildings are typical of thousands throughout the country, and though, at the present time, it is found possible to produce Grade A milk, it is doubtful if, under the physical conditions obtaining, it would be a commercial possibility, winter and summer, day in and day out, were it not for the never-failing vigilance and care of the institute staff.

" The fact that it is possible to produce Grade A milk under the existing conditions is a clear indication that it is the human element which is the most important factor, and that it is not elaborate or costly buildings alone which produce the desired results. The buildings comprise a large farm steading, a milking shed, lavatories and cloak rooms, and a dairy. The new animal house and the other institute buildings do not come within the range of the present article, which is intended rather to emphasise the principle adopted and call attention to the fact that such principles might be applied to existing buildings with comparatively little expense.

" The general distribution of the main farm buildings in effect follow the traditional arrangement, being grouped round the three sides of a square with the big covered yard in the centre.

" To the north-west is placed the barn range, a brick-built and slated building, arranged for the concentration, preparation, and easy distribution of fodder of all kinds. The planning and arrangement of this building are practically normal, and call for no particular comment save that the upper floor will be constructed of fire-resisting materials with a grano paving finish. One of the distinguishing feature of the plan is the covered cartway connecting the main range with the covered yard and stock sheds. The roof, of this cartway, the stock boxes, and covered yard will be constructed in creosoted timber framing with felted roofs, as it is considered that these buildings thus constructed are more readily adaptable to meet changing conditions or the special needs of experimental work, as well as being less costly to erect.

" The covered yard is, for the special purposes of experimental feeding and recording, divided into three equal portions each designed to accommodate ten cows.

" Mangers and standings for the thirty cows are placed immediately abutting upon the covered cartway and in close proximity to the administrative range, thus allowing for the most labour-saving means of attendance upon the animals. A post and movable rail fence separates the standings from the remainder of the covered yard.

" The covered yard is roofed by means of Belfast truss principals at 12-foot centres with a clear span of 35 feet. The containing fence on the south side is placed 14 feet beyond the span of the roof, thus allowing some open yard area where stock can obtain full advantage from the sun. The floor of the yards will be of 6-in. rammed chalk.

" The boxes on the south side have been designed with the intention of ultimate conversion to double cow-standings by the addition of another bay to the main Belfast truss roof, which is extended on this side to include the range of boxes. On the opposite side, to the north, a low span-roof building contains two boxes and a number of calf pens.

" Drainage from the standings and covered yard is collected in a manure tank.

" Thus it will be seen that the general arrangement of the buildings themselves is quite on traditional lines, save that it is perhaps more usual to find a central range separating covered or open yards. In such a case, were conversion required, it might be possible to sacrifice the central range entirely, and convert the whole space between the flank ranges into a covered yard. The provision of a car way on the south side of the barn range might be achieved in many cases by continuing the slope of the main north range roof where the range is a lofty building, as is so often the case.

" It is only possible to suggest the main lines of such a conversion, but to anyone familiar with farm buildings the possibilities of following the general principles exemplified in these plans will be obvious.

" The milking shed is placed to the east of the main buildings. This shed has accommodation for twenty cows, and is built in brick with grano floor, cemented walls and reinforced concrete slabbed roof, so that the whole building may be hosed down.

" As cows are only there for the short period of milking, the cubical content is of little importance, and hence the shed has been designed on the most economical lines, so far as size is concerned. A narrow feeding passage 2 ft. wide is provided to facilitate the rapid placing of the cake or other foodstuffs consumed by the cows during milking. At the end nearest the dairy, provision has been made for a changing room with lavatory basin and a w.c., with external access from the covered way connecting the dairy and milking shed. A small pail room, with a sink, entered direct from the covered way and milking shed is also provided. The milk will be taken from the milking shed to the platform and poured into a receiver outside the cooling room of the dairy.

" For general convenience the plan is hard to improve, and it is hoped that its publication will be of interest, not only to those who are considering the possibility of making alterations to their own buildings, but also to all who are interested in the progress of scientific farming, and particularly in the work which the National Institute for Research in Dairying is doing.

" A future article will deal with the great advance in the production of clean milk which is being made

(*Continued on next page.*)

## Royal College of Veterinary Surgeons.

### Quarterly Meeting of Council.

(*Concluded.*)

Sir Stewart Stockman: May I point out another thing—I do not know if it is in order. It is a fairly common practice for some members, who are not particularly *au fait* with all that is going on, to sign their papers and send them to other people as a proxy to fill up in full. I think that is quite legitimate if they want to do it, but it opens the way to forgery. I think he must sign it.

Mr. Carter: What becomes of the voting papers after the election is over?

The Secretary: They are kept in the archives of the College for a certain number of years.

Mr. Carter: How many years?

The Secretary: Until we have a clearance—three or four years.

The President: I think one year is long enough. It has been proposed and seconded that the Auditors shall count the votes at the annual election for Council.

The Secretary: That will involve an alteration of By-law.

Colonel Brittlebank: Then I will give the necessary notice of motion. There is no hurry about it.

Major Simpson: When are the Scrutineers appointed? If we know that our Auditors will act, will it not be sufficient to nominate the Auditors as our Scrutineers, and let that go forward without making any alteration of the By-laws. We have to appoint the Scrutineers, and if we appoint our Auditors as Scrutineers that will be sufficient.

Mr. Thatcher (Solicitor): With great respect, I am afraid I must differ from you. If you will turn to By-law No. 8 you will see it reads: "The Council shall nominate not less than twelve persons to act as Scrutineers of the voting papers. The President shall have power to nominate substitutes in case of non-attendance. The President or, failing him, one of the Vice-Presidents, or failing these a member of Council who is not a candidate for re-election, shall be present when the voting papers are opened, and when the votes are counted."

Colonel Brittlebank: I give notice of the necessary alteration of By-law, to read as follows: "The Council shall nominate a firm or firms of Chartered Accountants to act as Scrutineers of the voting papers," and the remainder of the By-law to read as it stands at present.

The President: That notice of motion will be suspended in the usual way.

### Appointment of Standing Committees for the Year.

A ballot took place for the appointment of Standing Committees for the year, and it was subsequently announced that the following had been elected:—

Registration Committee.

The Whole Council.

Examination Committee.

| | | |
|---|---|---|
| Blenkinsop, L. J. | Gaiger, S. H. | Moore, J. |
| Bradley, O. Charnock | Gofton, A. | Share-Jones, J. T. |
| Brittlebank, J. W. | M'Fadyean, J. | Spencer, T. F. |
| Buxton, J. B. | Male, G. P. | Stockman, S. |
| Craig, J. F. | McKinna, J. | Sumner, H. |

Finance Committee.

| | | |
|---|---|---|
| Abson, J. | Clarkson, J. | McKinna, J. |
| Blackhurst, C. | Hughes, R. | Male, J. P. |
| Bradley, O. Charnock | King, W. S. | Rees, W. D. |
| Brittlebank, J. W. | Locke, G. H. | Simpson, P. J. |
| Carter, J. H. | McIntosh, J. W. | West, E. Alfred |

Parliamentary and General Purposes Committee.

| | | |
|---|---|---|
| Blenkinsop, L. J. | Gofton, A. | Male, G. P. |
| Bradley, O. Charnock | Livesey, G. H. | Simpson, P. J. |
| Brittlebank, J. W. | Locke, G. H. | Spencer, T. F. |
| Buxton, J. B. | M'Fadyean, J. | Stockman, S. |
| Carter, J. H. | McIntosh, J. W. | Sumner, H. |

Publication, Library and Museum Committee.

| | | |
|---|---|---|
| Abson, J. | Clarkson, J. | Rees, W. D. |
| Blackhurst, C. | Hughes, R. | Share-Jones, J. T. |
| Bradley, O. Charnock | Livesey, G. H. | Spencer, T. F. |
| Brittlebank, J. W. | McIntosh, J. W. | Stockman, S. |
| Carter, J. H. | Male, G. P. | Sumner, H. |

Honours and Prizes Committee.

| | | |
|---|---|---|
| Blenkinsop, L. J. | Howard, P. J. | Share-Jones, J. T. |
| Bradley, O. Charnock | Locke, G. H. | Simpson, P. J. |
| Craig, J. F. | M'Fadyean, J. | Spencer, T. F. |
| Gaiger, S. H. | Male, G. P. | Stockman, S. |
| Gofton, A. | Moore, J. | Willett, J. |

*The President is ex-officio a member of all Committees.*

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(*Continued from previous page.*)

in the Reading district under the guidance of the Institute."

The party had tea in the shade of one of the finest cedar trees in the country, and heartily endorsed the cordial terms in which the presidents of the divisions represented thanked Dr. Williams and his staff for the kindly thoroughness with which they had revealed to them that afternoon the splendid work which is being carried on at Shinfield.

Dr. Williams having made suitable acknowledgment, the majority undertook a slight extension of the day's outing to College Farm, where much of interest was seen in connection with experimental crop growing, carried out by Professor Pennington, M.R.C.V.S., B.Sc., who is a member of the Royal Counties V.M.A.

Professor Pennington not only is responsible for the growing and "crossing" of various cereals and grasses, but has built up a herd of Shorthorn dairy cows, tubercle free, record milkers and prize takers in the show ring, and this on no greater outlay than the ordinary tenant farmer could afford.

The very interesting discourse by Professor Pennington telling of the origin and growth of present-day wheats and the experiments showing the futility of planting crops either before or after the recognised time were of great interest especially to country practitioners.

This concluded the business of the quarterly meeting of Council.

## Special Meeting.

Immediately following the quarterly meeting of Council, a special meeting was held. Mr. S. H. Slocock (President) occupied the chair and the same members were present as at the quarterly meeting.

### Minutes.

The minutes of the last special meeting, which had been printed and circulated, were taken as read and signed as correct.

Sir Stewart Stockman formally moved the adoption of the following Bye-law :—

"*Examination for the Diploma of Fellowship.*

"A panel of examiners shall be elected for a period of not exceeding three years, consisting of not less than three nor more than five members for each section of the examination, who shall receive such fees and expenses as shall from time to time be fixed by the Council."

Professor Gofton seconded the motion, which was carried unanimously.

It was resolved that the confirmatory meeting should be held on Wednesday, 16th July, 1924, at 3 p.m.

### Vote of Thanks to the President.

Mr. McKinna : I am sure we should not like to separate without passing a hearty vote of thanks to the President for his conduct in the chair, and to congratulate him on the expeditious manner in which he has carried out the business. (Hear, hear.)

Sir Stewart Stockman seconded the motion, which was carried by acclamation.

The President briefly acknowledged the compliment, and the meeting terminated.

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A Special Meeting of Council of the Royal College of Veterinary Surgeons was held at 10 Red Lion Square, W.C.1., on Wednesday, July 16th, 1924, when the following were present:—Sir Stewart Stockman (Vice-President) in the chair, Major J. Abson, Mr. J. H. Carter, Mr. W. S. King, Mr. G. H. Livesey, Mr. J. W. McIntosh, Major-General Sir John Moore, Major P. J. Simpson, Mr. E. Alfred West, Mr. J. Willett, and Professor G. H. Wooldridge.

Apologies for absence were received from the President (Mr. S. H. Slocock), Dr. O. Charnock Bradley, Mr. A. Gofton, Mr. G. P. Male, and Mr. J. McKinna.

1. *Minutes.*—The minutes of the previous Special Meeting were read and signed as correct.

2. *New Bye-law.*—On the motion of the Chairman the following Bye-law passed at the previous Special Meeting was duly confirmed, and the Seal of the College was ordered to be attached thereto :—

*Examination for Diploma of Fellowship.*

A panel of examiners shall be elected for a period of not exceeding three years, consisting of not less than three nor more than five members for each section of the examination, who shall receive such fees and expenses as shall from time to time be fixed by the Council.

This concluded the business of the meeting.

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## Victoria Veterinary Benevolent Fund.

A quarterly meeting of the Council of the Victoria Veterinary Benevolent Fund was held at 10 Red Lion Square, W.C.1, on July 4th, when the following were present: Mr. S. H. Slocock (President) in the chair, Major J. Abson, Colonel J. W. Brittlebank, Professor S. H. Gaiger, Mr. A. Gofton, Mr. G. H. Locke, Major-General Sir John Moore, Major P. J. Simpson, Mr. A. Spicer, Mr. E. Alfred West, and Mr. J. Willett.

Letters of apology for absence were received from Mr. Gooch, Mr. J. Ewing Johnston, and Mr. P. J. Howard.

1. The minutes of the previous meeting were taken as read and signed as correct.

2. The Secretary submitted the following report, which was approved :—

Since the previous quarterly meeting the following donations and new subscriptions have been received :

| | £ s. d. | £ s. d. |
|---|---|---|
| *Per P. J. L. Kelland :* | | |
| J. Fox ... ... .. | 10 6 | |
| A. W. Holtum ... ... | 10 6 | |
| A. Temple ... ... ... | 10 6 | |
| G. L. Bradley ... ... | 10 6 | |
| F. S. Whitfield ... ... | 10 6 | |
| C. Hargreaves ... ... | 10 6 | |
| E. F. Hardwick ... ... | 10 6 | |
| E. S. James ... ... | 10 6 | |
| | | 4 4 0 |
| *Per A. M. Munro :* | | |
| J. D. Broome ... ... | 10 6 | |
| H. Aldred ... ... ... | 10 6 | |
| E. D. Barker ... ... | 10 6 | |
| T. J. Batty ... ... ... | 10 6 | |
| D. A. Buchanan ... ... | 10 6 | |
| R. E. C. Bullen ... ... | 10 6 | |
| G. T. Cattell ... ... | 10 6 | |
| R. Downham ... ... | 10 6 | |
| G. Edmundson ... ... | 10 6 | |
| L. J. Ford ... ... ... | 10 6 | |
| H. L. Gravelle ... ... | 10 6 | |
| A. A. Hamilton ... ... | 10 6 | |
| A. B. Mattinson ... ... | 10 6 | |
| E. J. L. Norman ... ... | 10 6 | |
| T. M. Parker ... ... | 10 6 | |
| E. L. Taylor ... ... | 10 6 | |
| J. H. Taylor ... ... | 10 6 | |
| J. T. Taylor... ... ... | 10 6 | |
| A. M Munro .. ... | 10 6 | |
| | | 9 19 6 |
| T. Dunlop Young—Increased Subscription | | 1 1 0 |
| R. B. Nelder ... ... ... ... | | 10 6 |
| T. Love ... ... ... ... ... | | 2 2 0 |

| | | | |
|---|---|---|---|
| H. Kirk ... ... ... ... ... | | 10 | 6 |
| W. F. Widden ... ... ... ... | 1 | 1 | 0 |
| *Donations, etc.:* | | | |
| Mrs. Sarah Wood—Legacy ... ... | 500 | 0 | 0 |
| W. S. King—Life Membership ... ... | 10 | 10 | 0 |
| Arnold Spicer ... ... ... ... | 30 | 0 | 0 |
| Midland Counties V.M.A. ... ... ... | 5 | 0 | 0 |
| Bolton's Cinema ... ... ... ... | 10 | 18 | 0 |
| M. Tailby ... ... ... ... ... | 1 | 1 | 0 |
| W. W. Smart ... ... ... ... | 1 | 1 | 0 |

3. *Correspondence.*—A letter was received from the Secretary of the National Veterinary Medical Association stating that the Association would allow the free insertion of a loose inset in the *Veterinary Record* in order to bring the claims of the fund before the readers.

It was resolved that the Association be thanked for their very kind offer, and that the Secretary be instructed to prepare the necessary leaflet.

4. *Cases.*—No. 57, Miss M., aged 44, ill-health prevents continued occupation. It was resolved that the grant of 10s. per week be continued for the present quarter.

No. 67, Mrs. B., widow, aged 31, two children under five. No occupation. It was resolved that the grant of 15s. per week be continued for the present quarter.

No. 71, Mr. A., ex-member, aged 60. The Executive Committee reported that they had stopped the grant in this case owing to the conduct of the recipient, and their action was approved.

No. 74, Mrs. H., widow, aged 60. Three children, but none able to help. It was resolved that a grant of 10s. per week be made for the present quarter pending further enquiries.

No. 75, Mrs. J., widow, 47. Three children, two at school. It was reported that this recipient had now obtained employment, and the grant was discontinued.

No. 78, Mr. C., member, aged 30. Out of work, no income. It was resolved that in the absence of satisfactory references no grant be made in this case.

No. 79, Mr. H., member, aged 51. Four children, two at school. Receiving £35 pension, but unable to practise profession. Earning £3 weekly as clerk. Applies for assistance to meet wife's funeral expenses. The action of the Executive Committee in making an immediate grant of £5 was approved, and the Secretary was instructed to obtain further particulars of this case.

5. *Investment of Donations.*—It was resolved that the Investment of Donations be left in the hands of the Executive Committee.

6. *Wortley-Axe Bequest.*—The Secretary reported that the amount of the Wortley-Axe Bequest had been invested in the purchase of £2,303 5s. 3d. Conversion Loan 3½ per cent. Stock, and that arrangements had been made with the Bank for the account to be kept distinct and separate, so that the terms of the Bequest could be carried out, namely, that the income be re-invested until the capital has increased to £3,000.

This concluded the business of the meeting.

## The Veterinary Association of N.S.W.

The monthly meeting of the Veterinary Association of New South Wales was held at the Royal Society's Rooms, Elizabeth Street, Sydney, on April 1st. The President, Dr. Dodd, was in the chair, and there were also present Professor Stewart, Colonel Henry, Dr. Seddon, Messrs. Bell, Davidson, Dowling, McEachren, Hindmarsh, Veech, Whitehouse, Nott, Thorpe, Stewart, Carne, Clunies Ross. Two Victorian graduates, Messrs. Lewis and Turner, were present as visitors.

A letter was read from the Secretary of the Australian Veterinary Association, in which it was stated that it was proposed to alter the present constitution of the Australian Veterinary Association, to provide for the present State Associations becoming branches of the A.V.A. It was desired that the attitude of the N.S.W.V.A. in regard to this matter should be made known as soon as possible. It was decided that discussion of this question should be deferred till the next monthly meeting of the Association.

Mr. W. L. Hindmarsh then read a paper entitled "The Rinderpest Outbreak in Western Australia." Mr. Hindmarsh stated that the first cases occurred in the Fremantle area on the 30th October, 1923, and a provisional diagnosis of arsenical poisoning was made. Further cases occurred on November 16th, when Mr. Weston, B.V.Sc. conducted a *post-mortem* examination of affected animals, and on November 20th he expressed the opinion that the deaths were due to rinderpest.

In all twenty farms were affected in this first outbreak, all of them being in the Fremantle area, the mortality in some cases being heavy, so that on four farms 119 out of 191 cattle died or showed lesions of rinderpest on *post-mortem*. On 26th of November fresh cases were reported in the Belmont area. On 4th December a quarantine of all country within a radius of thirty miles of Fremantle Post Office was instituted, while on the 8th all in contacts were destroyed.

Mr. Hindmarsh then dealt with the rigid quarantine measures instituted by Mr. W. A. N. Robertson, which proved successful in stamping out the epidemic, the last cases occurring on the 18th December. It was thought that infection had been introduced by a mob of 2,700 sheep that had been landed from a ship trading with the East.

The President, Dr. Dodd, in thanking Mr. Hindmarsh for his paper, expressed regret that he had not given more details in regard to the inoculation experiments which were carried out in connection with the outbreak, but concluded that they would be fully dealt with in the official report when it was published.

Colonel Henry paid a tribute to the way in which the outbreak had been stamped out, and emphasised the necessity of the various States of the Commonwealth maintaining efficient veterinary services. Professor Stewart moved that the meeting express its appreciation of the work of Mr. W. A. N. Robertson

*(Continued on next page.)*

## NOTES AND NEWS.

**The Editor will be glad to receive items of professional interest in these columns**

### Sept. 8-15—N.V.M.A. Annual Congress at Aberdeen.

RAIL VOUCHERS, ENTITLING MEMBERS TO TRAVEL TO THE ABERDEEN CONGRESS AT THE REDUCED RATE OF A FARE AND A THIRD FOR THE DOUBLE JOURNEY, ARE NOW AVAILABLE. MEMBERS MAY OBTAIN AS MANY VOUCHERS FOR THEMSELVES AND THEIR FRIENDS AS THEY DESIRE, AND APPLICATION SHOULD BE MADE TO THE GENERAL SECRETARY, 10 GRAY'S INN SQUARE, W.C.1, AT AN EARLY DATE TO AVOID DISAPPOINTMENT.

The programme and papers for the Congress, together with the Annual Report and other matters, have been published in book form and posted to all members except such as are in arrear with their subscriptions for more than one year. The Finance Committee has decided that those members who have yet not paid for 1923 should not receive it. Members may obtain additional copies, so long as the supply lasts, at the price of 2s. 6d.; the charge to non-members will be 3s. 6d.

* * * *

The booklet will be welcomed by all attending the Congress as being much more convenient than a collection of loose papers, and we think all members will agree that it will prove an interesting souvenir of this year's work of the Association. We hope to be able to improve upon it in the future. The list of members alone is of great interest, and it is here we hope to be able to make an improvement by inserting the present address instead of the official address of the R.C.V.S. Register.

* * * *

Writing of the list of members reminds us that the number of names on the published list is 1,493. Two more new members have now to be added, so that we need only five more names to bring our total membership up to 1,500. If our members would bestir themselves, and canvass their friends and acquaintances, we could easily get another 500. After all the success of the Association largely rests with the individual members of it. We want to report a membership of at least 1,500 at Aberdeen.

* * * *

A loose insertion in this week's issue places before our readers the claims of the Victoria Veterinary Benevolent Fund. The Association has extended its support to the Fund and is issuing this leaflet to its members as practical evidence that it commends the Fund to the profession as being worthy and in need of all the help which members can afford to give to it. We hope that this appeal, coming as it does through the medium of the *Record*, will meet with a generous response.

* * * *

Train services to Aberdeen have been advertised on page ii. of the *Record* both last week and again in this issue. If parties are to travel together on the same train, it is more enjoyable if they travel in the same coach or coaches. This can and will be arranged so far as possible, but it is absolutely essential that names should be sent to the General Secretary *not later than August 31st*. It would appear at present that the majority are travelling by (or joining *en route*) the 10 a.m. express from Euston on Saturday, September 6th. The President and many members from London and the Midlands will be on that train.

* * * *

We very deeply regret to hear of the death of Dr. Septimus Sisson, of the Ohio State University, Columbia, who was the delegate of the American Veterinary Medical Association to our Congress last year at York, and who was our respected and welcome guest for the week. Dr. Sisson was one of the three holders of the Doctorate of Veterinary Science of Toronto, and he was the only holder of this exceptional honour in the United States. We have as yet received no further particulars, but we hope shortly to be in a position to publish an account of Dr. Sisson's career.

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(*Continued from previous page.*)

and his veterinary staff for their work in stamping out rinderpest in Western Australia. This was carried unanimously. A vote of thanks to Mr. Hindmarsh was moved by Mr. DAVIDSON, seconded by Mr. STEWART, and carried with acclammation.

☞ J. CLUNIES ROSS,
Honorary Secretary and Treasurer.

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In Walsall County Court on July 16th, in the case of Mr. A. E. Paley, M.R.C.V.S., of Marsh Street, Walsall, Judge Tebbs made an order for the immediate discharge of the applicant from bankruptcy, none of the creditors appearing. The receiving order was made on September 30th, 1923. The statement of affairs showed liabilities estimated at £1,338, and the proofs actually admitted were for £1,337, but the amount was increased to £1,359 owing to claims not being sent in. The assets, which were estimated to produce £1,573, realised only £981, and the probable value of assets not yet realised was £5. This considerable difference was accounted for mainly by the fact that book debts estimated at £1,028 realised only £270. The first dividend of 10s. in the £ had been paid, and a further dividend of 2s. in the £ was probable.

Applicant's counsel contended that it was perfectly clear that the bankrupt never was insolvent if the book debts had produced the amount estimated, and he certainly was not insolvent before the petition was filed. In continuing to practise as a veterinary surgeon he was actually benefiting the estate.

### Foot-and-Mouth Disease.

OUTBREAKS IN SOUTH-WESTERN COUNTIES.

Several outbreaks of foot-and-mouth disease have lately occurred in the south-western counties of England, which hitherto have been practically free from the scourge.

The Board of Agriculture reports that between July 21st and 27th there were altogether nineteen cases in England. The counties affected were:—Bucks, two cases; Derby, one; Dorset, two; Lincoln, one; Notts, two; Oxford, eight; Stafford, two; and Worcester, one.

The epidemic was at its height at the end of last year, when from fifty to sixty cases were being reported each day. The strenuous efforts made to combat the spread of the disease resulted in a gradual reduction in the number of cases, and some three months ago it was hoped that the outbreak had been stamped out. Within the last few weeks, however, the returns show an average of three to four cases a day.

### Knocked Down by a Dog.

At a recent inquest on the body of Mrs. Florence Esther Canty, 26, of Paragon Road, Hackney, a laundry forewoman, who died in the German Hospital, it was stated that she had been knocked down in the street by a big dog. The coroner said that from a report before him it appeared that the woman was first treated at the hospital for a small scalp wound. It was then impossible to say whether there was any injury to the bone. Dr. R. M. Bronte, pathologist, said he found death to have been due to the rupture of a cerebral blood vessel. With regard to the fact that the actual trouble was not immediately diagnosed at the hospital, the witness said this was quite possible, and he had known of a similar case. The coroner (Dr. Edwin Smith) recorded a verdict of "Accidental Death."

## CORRESPONDENCE.

**Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.**

**All correspondence must bear the name and address of the contributor for publication.**

**The Editor does not hold himself responsible for the opinions of his correspondents.**

### The National Veterinary Medical Association.

To the Editor of The Veterinary Record.

Sir,—It was not my intention for my views to appear again in print on the question of Tuberculin, but I cannot allow Mr. Gaiger's latest letter to go unchallenged.

I am sorry that Mr. Gaiger should have misquoted me. My actual words were: "I claim to be fairly well acquainted with the difficulties and requirements of the practitioner, and I say that this sort of advice, coming as it does from a member of Council, will not assist the veterinary surgeon, whose work is largely testing cattle, in the slightest degree." Who will translate this as meaning that I experienced some difficulty in ascertaining which of my clients misused tuberculin?

The difficulties to which I referred are indeed very real. I repeat that it is futile in the extreme for a veterinary surgeon to enquire of the owner of cattle he is about to test if he has any tuberculin on his premises.

I do not claim, as is suggested by Mr. Gaiger, that I possess "superior knowledge." I credit myself with no more nor less than my statement quoted above shows.

What evidence I have on this matter is, or I hope will be, of some value, and some part of this is already in the hands of the General Secretary. The remainder I shall hope to have completed in a few days, when it too will be at the disposal of those who can make use of it. Actually, I do "honourably" charge certain members of the agricultural community with using tuberculin to meet their own ends. I say "certain members" advisedly, for I am well aware that the vast majority of this excellent body wish to put a stop to a practice which they fully realise to be prejudicial to their interests.

The part I played in the "mismanagement" of the affairs of the N.V.M.A. is much the same as that played by Mr. Gaiger. We are both members of Council, we both attend as often as we are able, and we both say what we think when the time arises and vote accordingly. Always we vote according to the dictates of our conscience, and I have no hesitation in speaking for Mr. Gaiger as well as for myself. Sometimes our judgment may be at fault, but this does not alter the fact that we both act in good faith, and in a manner which we believe to be beneficial to the profession.

I am pleased that this matter has been ventilated, for it shows a desire, almost approaching anxiety, on the part of members of Council N.V.M.A. to do their best for the profession.

Anyone of us may be wrong in our judgment, but no member of Council N.V.M.A., as far as I am aware, can be justly charged with insincerity or lack of interest in the affairs appertaining to his profession.—Yours faithfully,

G. W. Dunkin (Major),

Rhodes Farm, Mill Hill, N.W.7,

1*st August*, 1924.

### Inspecting Animals at Cattle Markets.

To the Editor of The Veterinary Record.

Sir,—May I ask, through your columns, the opinions of some of our members who have had large experience in the examination of animals at cattle markets:—

1. Whether they find any difficulty in picking out the tuberculous animals, and especially those with tuberculous udders. Is the latter now admitted to be an easy matter?
2. Do they always examine *all* the animals that come into the market and make a careful examination of each of the udders?
3. Is it possible for us to make such an examination as to be able to assert whether or not an animal is tuberculous or that the udder is affected?
4. What would be the position of the Local Authority if their inspector condemned an animal as tuberculous, and it was subsequently found by *post-mortem* or otherwise to be free from the disease?
5. What would be his position if he missed seeing, or even after examination diagnosing the disease in an animal which was subsequently killed and found to be tuberculous on *post-mortem* by another practitioner?
6. Have we any authority to detain a tuberculous animal, or to compel the owner to take it home and keep it there for further examination; or even of preventing it being taken away and sold privately?
7. If the inspector finds a tuberculous animal in a market, what course can he take under existing laws?

It would be both interesting and profitable to the whole profession as well as to veterinary inspectors to know the position of both the whole-time and other inspectors under existing laws.—Yours, etc., Geo. A. Banham, F.R.C.V.S.

Cambridge,

3*rd August*, 1924.

### Stocks or Travis.

To the Editor of The Veterinary Record.

Sir,—I see Mr. Collinson enquires for a good form of stocks for use in veterinary practice. The best fixed wooden stock I have seen is that designed by Mr. E. Leach, F.R.C.V.S., of Newmarket, and another is the metal one depicted some few years ago by Mr. Dollar, of Bond Street, London. Were Mr. Collinson to write them, I have no doubt both would be pleased to give him their opinion.—Yours, etc., Geo. A. Banham, F.R.C.V.S.

Cambridge,

3*rd August*, 1924.

*The Editor begs to acknowledge the receipt of the following:*

Report of the Veterinary Inspectors' Conference held in connection with the Royal Sanitary Institute Congress at Liverpool, from Mr. J. R. Hayhurst.

Report of meeting of the Midland Counties Division, from Mr. H. J. Dawes, Hon. Secretary.

Communications from Messrs. R. E. Alexander and Capt. W. F. Widden.

**National Veterinary Medical Association of Great Britain and Ireland, Limited.**

**EDITORIAL OFFICE: 10 Gray's Inn Square, London W.C.1.**

Cheques should be made payable and all communications sent to the General Secretary at the Offices of the Association, 10 Gray's Inn Square, London, W.C.1.

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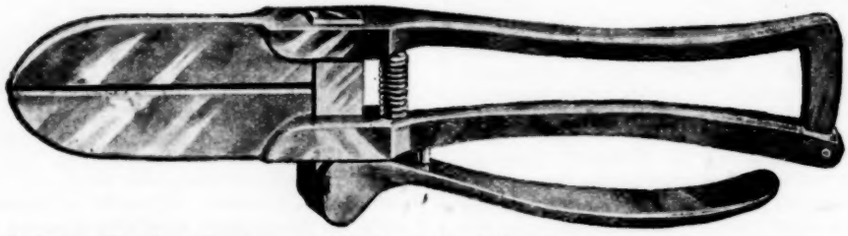

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